Serial carotid MRI identifies rupture of a vulnerable plaque resulting in amaurosis fugax

Figure 1 Baseline high-resolution carotid MRI after cryptogenic stroke

Baseline carotid MRI demonstrating a complicated American Heart Association type-VI plaque of the right internal carotid artery (*). High signal on time-of-flight (TOF) and T1-weighted images (arrow) corresponding to intraplaque hemorrhage within a large lipid/necrotic core. PD = proton density; 3D = 3-dimensional.

A 66-year-old man with cryptogenic ischemic stroke and multiple acute ischemic lesions in the right middle cerebral artery territory was enrolled in the CAPIAS trial (Carotid Plaque Imaging in Acute Stroke; NCT01284933). Baseline carotid MRI demonstrated a right-sided nonstenotic American Heart Association type-VI plaque with a large lipid/necrotic core and intraplaque hemorrhage (figure 1). Eleven months later, the patient presented again after an episode of right eye amaurosis fugax. Repeat carotid MRI revealed a new ulceration on the right side with large parts of the former lipid/necrotic core missing (figure 2). We hypothesize that plaque rupture had caused embolization into the right retinal artery.

Figure 2 Repeat carotid MRI after an episode of amaurosis fugax (11 months later)

At repeat MRI, this plaque showed profound superficial irregularities, with a new ulceration and parts of the former lipid/necrotic core missing (arrowhead). PD = proton density; TOF = time of flight.

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